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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790.908	03/02/2004	Paul D. Ringgenberg	2003-IP-011866 UI USA	1417

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EXAMINER

PENG, CHARLIE YU

ART UNIT PAPER NUMBER

2883

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/790,908	RINGGENBERG, PAUL D.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Charlie Peng	2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 29-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 29-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>07/03/2006, 07/03/2006, 07/04/2006</u>                                    | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments filed 09 June 2006 have been fully considered but they are not persuasive. Applicant argues that "the well head **106** of Maida is identified as corresponding to the first assembly, and the fiber optic cable **110** is identified as corresponding to the second assembly", and the first and the second assemblies do not meet the limitations as claimed. However, examiner had stated, in previous office action mailed 14 March 2006, that the first assembly is a sensor assembly **34** and the second assembly is a wellhead assembly **106**, and said assemblies meet the claim language as shown in rejections below. The argument is therefore not considered persuasive.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 29-40 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S.

Patent 6,933,491 to Maida, Jr. Maida teaches a system for deploying an optical fiber cable into a well having a first (sensor) assembly **34**, a second (wellhead) assembly **106**, wherein the wellhead assembly **106** deploys a down hole fiber optic cable **110** and

the sensor assembly **34** into the well. (See at least Fig. 2 and description) Maida further teaches the sensor assembly is coupled to an optical circulator **104** through the down hole fiber optic cable **110**, e.g., the sensor assembly can be said to be coupled to the circulator with some intermediary component, such as an length of cable, a coupler or a connector, or polarizer, etc., intervenes between the two. Each connector would be connecting two assemblies with fiber optic cables.

With reference to claims 30-32, with respect to the functional languages in relation to the assemblies and optical connectors, while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. (See MPEP 2111 [R-1]).

With reference to claims 33-35, Maida teaches that a light signal travels through the downhole cable **110** to the sensor assembly **34** (on a first section of fiber optic cable), and the reflected signal indicative of the measured parameter(s) proceeds back up to the optical circulator **104**. The reflected light signal is eventually passed to control station **99** by return optic fiber cable **101b**, and specifically through a photo-intensity detector **112** to an optical receiver/detector **114** coupled to a display/data storage means D such as a monitor or a computer. The monitor or computer can monitor or

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receive physical parameter measurements from the fiber-optic-based sensor assembly

**34.**

With reference to claims 36 and 37, these claims recite inherent properties of the system as taught by Maida, if the connector is malfunctioning or disconnected, the sensor assembly would not be able to reflect optical signals to the monitor.

With reference to claims 39 and 40, Maida teaches that the system can have a plurality of sensors or sensor assemblies **34**, therefore requiring a plurality of connectors to *couple* all the sensors or sensor assemblies to different section of the down hole fiber optic cable **110**.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maida Jr. in view of U.S. Patent 5,435,351 to Head. Maida teaches the optical system except for an anchor for the down hole fiber optic cable. Head teaches an anchoring apparatus **20** which is firmly attached to the conduit **21** inside the coiled tubing **22** in a well bore. It would have been obvious to one of ordinary skill in the art at the time the invention was made to hang or suspend the fiber optic cable and sensor assemblies of Maida in the well as shown by Head. The motivation would be that the fiber optic cable is not subjected to any stretching whatsoever by its own weight.

Claims 44-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maida Jr. in view of prior art disclosed by Maida Jr. Maida teaches the optical system except for a production tubing string, but Maida discloses, in reviewing prior art, that the sensor assembly **34** typically consists of optical fiber sensors and transducers, as well as the mandrel and other equipment required to integrate the assembly into the production tubing string **24**. (See Fig. 1 and description) As for a completion string as disclosed by the applicant, the term "completion string" is in the art to describe the tubing and equipment that is installed in the well-bore to enable production from a formation. The upper end of the completion string typically terminates in and includes a tubing hanger from which the completion string is suspended. When the well is ready for production, the oil, water and/or gas passes through the liner or casing and through the completion string to a production flow control device located at or above the well-head. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a production tubing string engaged to a completion string in Maida's invention. The motivation is that without a production tubing string engaging to a completion string, a wellbore serves no function and cannot produce the oil, water, and/or gas.

Claims 48-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maida Jr. in view of USPGPub 2005/0092501 to Chavers et al. Insofar as the examiner can understand the claim due to their rejection under 35 U.S.C. 112, a completion string is gravel packed in the well as disclosed. Gravel packing is a well known method in well drilling, and Chavers teaches systems and methods where a production tubing-run

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reservoir completion string 16 is gravel packed in a section 34. Although Maida does not teach gravel packing specifically, it would be obvious to one of ordinary skill in the art at the time the invention was made to associate gravel packing with in-well fiber optic system as taught by Maida. The motivation is that gravel packing prevents production of formation sand and stabilizes the formation while causing minimal impairment to well productivity.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charlie Peng whose telephone number is (571) 272-2177. The examiner can normally be reached on 9 am - 6 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cyp

*Ben Healy*  
PRIMARY EXAMINER